**SSVEO IFA LIST**

**Date:03\01\2003**

**STS - 107, 102, Columbia ( 28 )**

**Time:08:07 AM**

| Tracking No | Time | Classification | Documentation | | Subsystem |
|---|---|---|---|---|---|
| MER - 1 | **MET:** Prelaunch | Problem | **FIAR** | **IFA** STS-107-V-01 | EPD&C - Hardwar |
| | **GMT:** 016:15:38:44 | | **SPR** 107RF01 | **UA** | **Manager:** Larry Minter |
| REV - B | | | **IPR** 118-V0002 | **PR** | 281-853-1590 |
| | | | | | **Engineer:** |

**Title:** AC2 Phase B "Sluggish" Current Signature (ORB)

**Summary:** During the pre-launch/post-insertion time period, AC2 phase B exhibited sluggish current increase during motor operation on three motors. The first occurrence of the sluggish performance was noted at T-31 seconds, and the second and third occurrences were noted during the post-insertion activities. AC2 phases A and C would increase to their expected values, but phase B would increase only to about half of the expected value, then recover to the expected value within about a second. The affected motors were: vent doors 8 and 9, Ku-band deploy motor 2, and port payload bay door open motor 2. There was no impact to motor drive times. There is no common circuit breaker/motor control assembly for these motors. All other motor signatures analyzed were nominal, some of which were powered from the same circuit breaker/motor control assemblies as the affected motors.

Continued data review throughout the mission uncovered several occurrences of "miniature" signatures of the same type (phase B dropping, phases A and C increasing). Most of these occurrences were less than one-second in duration and the phase B drop was between 0.2 and 0.3 amps. They were sometimes triggered by water loop pump cycles; although several occurrences from pre-launch and on-orbit were also observed even when no loads were being cycled. There was also evidence of the signature in data pulled by KSC from STS-107 flow processing.

From the data pulled during the mission, the problem appeared to be in the AC2 phase B inverter or the wiring between the AC2 phase B inverter and panels L4 and MA 73C.

| Tracking No | Time | Classification | Documentation | | Subsystem |
|---|---|---|---|---|---|
| MER - 3 | **MET:** 000:21:46 | Problem | **FIAR** | **IFA** STS-107-V-02 | FC/PRSD |
| EGIL-01 | **GMT:** 017:13:25 | | **SPR** 107RF02 | **UA** | **Manager:** Danny |
| REV - C | | | **IPR** 118-V0001 | **PR** | Fitzgerald |
| | | | | | 321-861-4535 |
| | | | | | **Engineer:** Ken Adams |
| | | | | | 281-853-1550 |

**Title:** O2 Tank 7 Heater A Failed Off in Manual Mode (ORB)

**Summary:** During performance of the O2 tank current-level detector checkout, it was noted that the O2 tank 7 heater A1 and A2 'ON' discretes did not come on. The heater switch 'ON' indication was present. This checkout procedure calls for the tank heaters to be turned on manually and then verifying that the current-limiting sensor trips out the heaters. Main bus current verified that the O2 tank 7 A heaters did not come on. Subsequently, the crew was asked to enable the O2 tank 7 A heaters in the AUTO mode to determine if the heaters would operate in that mode. The heater switch AUTO mode 'ON' indication was present and this time the heater A1 and A2 'ON' discretes were received. A full cycle of the A heaters were observed, thus verifying satisfactory operation in the AUTO mode. There was no mission impact. The O2 tank 7 current-level detector checkout was performed during one of the tank 7 heater cycles in the AUTO mode. Its performance was nominal.

| Tracking No | Time | Classification | Documentation | | Subsystem |
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| MER - 11 | **MET:** 015:22:20 | Problem | **FIAR** | **IFA** STS-107-V-03 | |
| | **GMT:** 032:13:59 | | **SPR** | **UA** | **Manager:** |
| | | | **IPR** | **PR** | |
| | | | | | **Engineer:** |

**Title:** Loss of Vehicle During Entry (ORB)

**Summary:** Accident investigation is on-going.